



(19)

(11) Publication number: **2000**

Generated Document.

PATENT ABSTRACTS OF JAPAN(21) Application number: **10195985**(51) Intl. Cl.: **H01L 21/205 C01B 33/02 H0**(22) Application date: **10.07.98**

<p>(30) Priority:</p> <p>(43) Date of application publication: 28.01.00</p> <p>(84) Designated contracting states:</p>	<p>(71) Applicant: SHARP CORP SHOWA DENKO KK</p> <p>(72) Inventor: TAKADERA TSUTOMU FUKUYAMA KEIICHI SAKAWAKI AKIRA YANO KOTARO KITSUNO YUTAKA</p> <p>(74) Representative:</p>
---	--

**(54) METHOD FOR
FORMING SILICON FILM
AND MANUFACTURE OF
SOLAR BATTERY**

(57) Abstract:

PROBLEM TO BE SOLVED: To manufacture a silicon film on a substrate under the condition where silane is uniformly doped from an inner part to an outer part, by using specified high-order silane formed of a first process to a third process in a liquid form.

SOLUTION: A gate bulb 3 is set in an open state and a coating room 1 and a film forming room 2 are vacuum-exhausted. Helium is introduced to the film forming room 2 through a gas supply line 8. High-order silane expressed by SiH_{2n+2} or Si_nH_{2n} (n is the integer of $3 \leq n \leq 7$) is dissolved in the additive of phosphine in a first process. Then,

high-order silane containing the additive is dropped on a glass substrate 9 on a spin coater 4 through a high-order silane supply line 6, and the whole face of the glass substrate 9 is coated lay silane with the rotation of the spin coater 4 in a second process. The temperature of high-order silane containing additive on the glass substrate 9 is raised to 35°C with the temperature inclination of 100°C, the temperature of the substrate is held for thirty minutes and a silicon film having an n-type conduction type is formed.

COPYRIGHT: (C)2000,JPO

